

MEMORANDUM

JUNE 7, 1984

TO: BOSTON REDEVELOPMENT AUTHORITY
FROM: ROBERT J. RYAN, DIRECTOR
SUBJECT: COLUMBIA POINT ENERGY STUDY

Over the past three years the Authority has participated in a number of studies of energy technologies to determine their appropriateness for Boston. More recently, staff at the Authority have begun to focus on several specific potential opportunities for innovative and beneficial technologies. The redevelopment of 1,400 units of housing on 50+ acres at Columbia Point is one such opportunity.

Staff at the Authority, the Boston Housing Authority, and from the redevelopment team have been working with a unique team of experts to shape the attached proposal to identify specific cost-effective energy conservation and supply opportunities which may be implemented during the redevelopment at Columbia Point. The team will be coordinated by staff at Metcalf & Eddy, Inc., a Boston engineering firm with a strong background in district heating and innovative energy systems. Other team members will include Triark-Procedum and Studsvik Energiteknik AB, a joint venture of Swedish engineering and design firms with extensive experience in state-of-the-art energy conservation and supply projects for multi-family buildings, and scientists from the Massachusetts Institute of Technology's Program for Energy Efficient Buildings and Systems and Laboratory of Architecture and Planning. It is doubtful that a more qualified team of experts could be assembled for the purposes at hand.

The Boston Housing Authority has agreed to share the cost of this contract up to Thirteen Thousand (\$13,000) Dollars pursuant to the terms of a Memorandum of Understanding, attached hereto.

The Secretary of Massachusetts Executive Office of Energy Resources has expressed strong support for such an effort in the form of an intention to participate in design review and provide such funding as may become available in the future. It is further expected that the results of this effort will place the Authority in a position to apply for between \$350,000 and \$500,000 in Federal funds to carry this project further.

Therefore, it is recommended that the Authority enter into a contract, substantially the same as the one attached hereto, with Metcalf & Eddy and its consultants to study conservation opportunities and the potential for district heating at Columbia Point for an amount not to exceed Twenty Six Thousand (\$26,000) Dollars to be paid out of CDBG funds, one half of

which shall be reimbursed by the Boston Housing Authority and to enter into a Memorandum of Understanding, substantially the same as the one attached hereto, with the Boston Housing Authority regarding said reimbursement.

VOTED: To authorize the Director to enter into a contract, substantially the same as the one attached hereto, with Metcalf & Eddy, Triark-Procedum, Studsvik Energiteknik AB, and the Massachusetts Institute of Technology Joint Program for Energy Efficient Buildings and Systems to study conservation opportunities and the potential for district heating at Columbia Point for an amount not to exceed Twenty Six Thousand (\$26,000) Dollars, to be paid out of CDBG funds, one half of which shall be reimbursed by the Boston Housing Authority, and to enter into a Memorandum of Understanding with the Boston Housing Authority, substantially the same as the one attached hereto, regarding said reimbursement.

WHEREAS, the Authority, together with the Boston Housing Authority, desires to engage a study for energy conservation and district heating at Columbia Point which would not normally be funded by the CDBG program; and

WHEREAS, the Contractor, together with certain subcontractors, has submitted a proposal to conduct such an investigation, which the Authority finds useful and timely; and

WHEREAS, the Contractor is uniquely qualified to perform such an investigation and the Authority desires to engage the Contractor for such purpose;

NOW, THEREFORE, the Authority and the Contractor for the consideration and under the conditions set forth herein agree as follows:

1. SCOPE OF STUDY CTS. The Contractor shall perform such services as are outlined in the proposal attached hereto as Exhibit A and shall produce such reports and written products as the Authority shall reasonably require.

2. COMPENSATION. The maximum amount to be paid under this agreement shall be Twenty Six Thousand (\$26,000) Dollars. This fee shall cover all costs incurred by the Contractor herein, including but not limited to salaries, FICA taxes, Federal and State unemployment taxes, out-of-pocket costs, including retention of any subcontractors, fringe benefits, supplies and equipment, general and ad valorem business, and profit.

3. METHOD OF PAYMENT. For the services performed under Article 1, the Authority shall pay Contractor the following unit, and fees for each phase:

Workshop and preliminary analysis	\$10,000.00
Final analysis and recommendations	\$10,000.00
Final report	\$6,000.00

AGREEMENT

By and Between

BOSTON REDEVELOPMENT AUTHORITY

and

METCALF & EDDY, INC.

This agreement is made this day of , 1984 by and between the Boston Redevelopment Authority, a public body corporate and politic, organized and existing under M.G.L., Chapter 121B, hereinafter referred to as the "Authority" and Metcalf & Eddy, Inc., a corporation organized and existing under the laws of the State of Delaware, with a usual place of business at 50 Staniford Street, Boston, MA, hereinafter referred to as the "Contractor".

WHEREAS, the Authority, together with the Boston Housing Authority, desires to explore options for energy conservation and system at Columbia Point which would not normally be investigated by private redevelopers; and

WHEREAS, the Contractor, together with certain subcontractors hereinafter named, has submitted a proposal to conduct such an investigation, which the Authority finds unique and timely; and

WHEREAS, the Contractor is uniquely qualified to perform such an investigation and the Authority desires to engage the Contractor for said purpose;

NOW, THEREFORE, the Authority and the Contractor for the consideration and under the conditions set forth herein agree as follows:

- I. SCOPE OF SERVICES. The Contractor shall perform such services as are outlined in the proposal attached hereto as Exhibit A and shall produce such reports and written products as the Authority shall reasonably require.
- II. COMPENSATION. The maximum amount to be paid under this agreement shall be Twenty Six Thousand (\$26,000) Dollars. This fee shall cover all costs incurred by the Contractor herein, including but not limited to salaries, FICA taxes, Federal and State unemployment taxes, out-of-pocket costs, including retention of any subcontractors, fringe benefits, supplies and equipment, general cost of doing business, and profit.
- III. METHOD OF PAYMENT. For the services performed under Article I, the Authority shall pay Contractor the following lump sum fees for each phase:

Workshops and preliminary analysis	\$10,000.00
Final analysis and recommendations	\$10,000.00
Final report	\$ 6,000.00

- IV. TERM OF CONTRACT. The term of this agreement shall be three (3) months from the date first hereinabove written. Time is of the essence to this contract.
- V. ASSIGNMENT OF CONTRACT. Except for subcontractual arrangements described in paragraph VI, below, the Contractor shall not assign this contract or any rights it may have hereunder to any party without the prior written approval of the Authority.
- VI. SUBCONTRACTORS. Contractor shall subcontract with Triark-Procudum, Studsvick Energiteknik AB, and the Massachusetts Institute of Technology's Joint Program for Energy Efficient Buildings and Systems. The Contractor shall designate a person who shall coordinate the efforts of the Contractor and its subcontractors and who shall have complete authority to transmit requests and instructions, receive information, and interpret and define the Contractor's policies and decisions.
- VII. OBLIGATIONS OF THE AUTHORITY. The Authority shall:
- 1) Place at the disposal of the Contractor all available information pertinent to the study upon which the Contractor can rely, including previous reports and any other data relative to design and construction of the proposed redevelopment;
 - 2) Provide access to and make all provisions for the Contractor to enter upon public and private lands as required for the Contractor to perform its work under this Agreement;
 - 3) Designate a person to act as the Authority's representative with respect to the work to be performed under this Agreement, such person to have complete authority to transmit instructions, receive information, and interpret and define the Authority's policies and decisions.
- VII. FINAL RELEASE. In consideration of the execution of this Agreement, the Authority agrees that simultaneously with the acceptance of what the Authority tenders as the final payment by it under the contract, the Contractor will execute and deliver to the Authority, an instrument under seal releasing and forever discharging the Authority of and from any and all claims, and liabilities whatsoever of every name and nature both at law and in equity, arising from, growing out of, or in any way connected with this contract.
- VIII. NON-DISCRIMINATION. Contractor agrees that, in the performance of services under this contract, it will not discriminate against any person because of race, color, creed, sex, or national origin.

IX. AMENDMENTS. This contract may not be changed or amended except in writing by the parties hereto.

APPROVED AS TO FORM:

BOSTON REDEVELOPMENT AUTHORITY

Chief General Counsel

Robert J. Ryan, Director

METCALF & EDDY

Boston Housing Authority, att John Stainton
Boston Redevelopment Authority, att William Whitman
Corcoran, Mullins & Jennison, att Marty Jones
Housing Associates, att Bob Kuehn

Columbia Point - Energy efficient buildings and systems

This is a proposal for a survey and analysis of energy conservation strategies and energy supply options for the redevelopment of Boston's Columbia Point. The project's objective is to present and analyze the cost and benefits of alternative combinations of energy saving steps in the buildings and in the energy supply systems for heating and domestic hot water.

The effort proposed would be a collaborative venture of the MIT Program for Energy Efficient Buildings and Systems and a Swedish team from Triark-Procudum and Studsvik Energiteknik AB. The Swedish team has extensive experience with development of state-of-the-art energy supply projects for multi-family buildings in Sweden. We propose to work closely with the Boston Housing Authority, the Boston Redevelopment Authority, and the involved developers to insure that our analysis reflects the specific evaluative criteria of those who will develop and manage the project.

Alternative strategies and options will be analyzed against a number of criteria, including capital and operating costs and benefits; performance reliability; maintenance requirements; desirable indoor climate and environment; engineering feasibility; and practicality in terms of the overall projects development schedule.

Strategies and Options to be Reviewed

Our analysis will focus on the three elements of a comprehensive energy program:

- ° Conservation steps to reduce demand for energy with the new and retrofitted buildings. Among the options to be reviewed are: review of building orientation, structures and floor-plans; added insulation in external walls, the attic, and under the first floor; improved air-tightness in external walls; design of, and new materials for doors and windows; controlled ventilation for heat recovery of exhaust air; etc.
- ° Heating supply systems in the buildings. Options include radiators with hot water, warm (and cool) air, electricity, heat pump systems, and combination.
- ° Heating distribution systems. The options of potential use will be dependent on the energy supply need. The less energy needed the more possibilities there are to use alternative and local energy sources as well as the distribution of lower temperatures through the system. Among the alternatives to be considered are the use of large-scale heat pumps to make use of sea water, ground water and sewage.